EMERGENCY TROUBLESHOOTING

When the ATC is difficult or impossible to start or won't start at all, it does not help to keep pulling on the recoil starter rope. Check for obvious problems even before getting your tools by following the steps listed below. Don't omit any. You may be embarrassed to find your engine stop switch in the OFF position but that is better than wearing out your arm trying to start the engine. If it still will not start, refer to the appropriate troubleshooting procedure in this chapter.

1. Is there fuel in the tank? Remove the filler cap (Figure 2) and rock the ATC; listen for sloshing fuel. Also make sure that the lever is in the ON position. The cap must be in this position to open the internal vent in the cap and allow the fuel to flow.

WARNING

Do not use an open flame to check in the tank. A serious explosion is certain to result.

- 2. Is the fuel shutoff valve (Figure 3) in the ON position?
- 3. Make sure the engine stop switch (Figure 4) is not stuck in the OFF position.
- 4. Is the spark plug wire (Figure 5) on tight? Push the wire on and slightly rotate it to clean the electrical connection between the plug and the connector.
- 5. Is the choke in the right position? The lever or knob should be moved *up* for a cold engine and *down* for a warm engine.

ENGINE STARTING

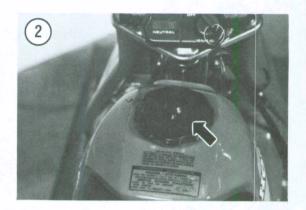
An engine that refuses to start or is difficult to start is very frustrating. More often than not, the problem is very minor and can be found with a simple and logical troubleshooting approach.

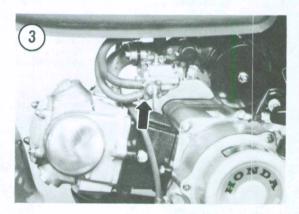
The following items show a beginning point from which to isolate engine starting problems.

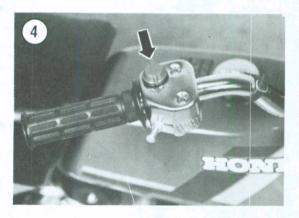
Engine Fails to Start

Perform the following spark test to determine if the ignition system is operating properly.

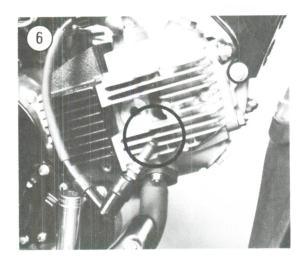
- 1. Remove the spark plug from the cylinder.
- 2. Connect the spark plug wire and connector to the spark plug and touch the spark plug's base to a good ground such as the engine cylinder head (Figure 6). Position the spark plug so you can see the electrode.
- 3. Crank the engine over with the recoil starter. A fat blue spark should be evident across the spark plug electrodes.











WARNING

On models with a CDI ignition system, if it is necessary to hold the high voltage lead, do so with an insulated pair of pliers. The high voltage generated by the CDI could produce serious or fatal shocks.

- 4. If the spark is good, check for one or more of the following possible malfunctions:
 - a. Obstructed fuel line.
 - b. Leaking head gasket.
 - c. Low compression.
- 5. If spark is not good, check for one or more of the following:
 - a. Weak ignition coil.
 - b. Faulty contact breaker points (models so equipped).
 - c. Weak CDI pulse generator (models so equipped).
 - d. Broken or shorted high tension lead to the spark plug.
 - e. Loose electrical connections.
 - f. Loose or broken ignition coil ground wire.

Engine Is Difficult to Start

Check for one or more of the following possible malfunctions:

- a. Fouled spark plug.
- b. Improperly adjusted choke.
- c. Contaminated fuel system.
- d. Improperly adjusted carburetor.
- e. Weak ignition coil.
- f. Faulty contact breaker points (models so equipped).
- g. Weak CDI pulse generator (models so equipped).
- h. Incorrect type ignition coil.
- i. Poor compression.

Engine Will Not Crank

Check for one or more of the following possible malfunctions:

- a. Broken recoil starter.
- b. Seized piston.
- c. Seized crankshaft bearings.
- d. Broken connecting rod.
- e. Locked up transmission or clutch.

ENGINE PERFORMANCE

The following check lists assume that the engine runs, but is not operating at peak performance. This will serve as a starting point from which to isolate a performance malfunction.

The possible causes for each malfunction are listed in a logical sequence and in order of probability.

Engine Will Not Idle

- a. Carburetor incorrectly adjusted.
- b. Fouled or improperly gapped spark plug.
- c. Leaking head gasket.
- d. Ignition timing incorrect.
- e. Incorrect contact breaker point gap (models so equipped).
- f. Weak or faulty pulse generator (models so equipped).
- g. Valve clearance incorrect.
- h. Obstructed fuel line or fuel shutoff valve.

Engine Misses at High Speed

- a. Fouled or improperly gapped spark plug.
- b. Improper ignition timing.
- c. Improper valve clearance.
- d. Improper carburetor main jet selection.
- e. Clogged jets in the carburetor.
- f. Weak ignition coil.
- g. Incorrect contact breaker point gap (models so equipped).
- h. Weak or faulty pulse generator (models so equipped).
- i. Obstructed fuel line or fuel shutoff valve.

Engine Overheating

- a. Obstructed cooling fins on cylinder head and cylinder.
- b. Improper ignition timing.
- c. Improper spark plug heat range.

Smoky Exhaust and Engine Runs Roughly

- a. Carburetor adjustment incorrect (mixture too rich).
- b. Choke not operating correctly.

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